

#1

Access DB# 162356

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sim J. Lee Examiner #: 76060 Date: 8-10-2005
 Art Unit: 1752 Phone Number 301-21333 Serial Number: 101671,948
 Mail Box and Bldg/Room Location: 9D60 Results Format Preferred (circle): PAPER DISK E-MAIL

(Rem.)

If more than one search is submitted, please prioritize searches in order of need.

 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plz. see Bib.

Inventors (please provide full names):

SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Cntr

AUG 12 RECD

Earliest Priority Filing Date:

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number. Pat. & T.M. Office

— please search for the ~~the polymer having the repeat unit (1c)~~
 the polymer having the repeat unit (1c)
 or (1b) of cl. #5.



STAFF USE ONLY

Type of Search

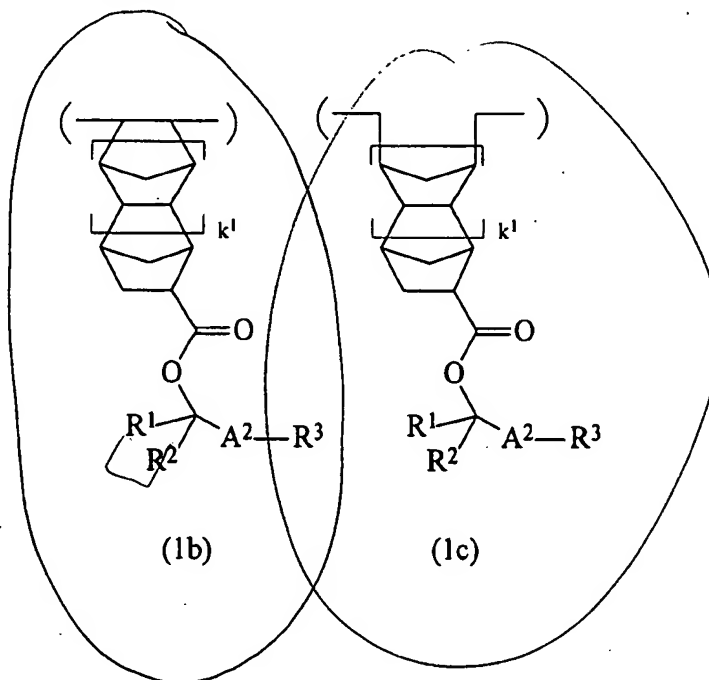
Vendors and cost where applicable

Searcher: <u>EL</u>	NA Sequence (#) _____	STN _____
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>8-25-05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____

k^1 is 0 or 1.

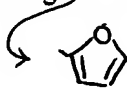
4. (original) A polymer comprising recurring units derived from the ester compound of claim 1.

5. (currently amended) A polymer comprising recurring units of any one of the general formulae (1b) and (1c):



wherein

A^2 is a divalent group selected from among furandiyl, tetrahydrofurandiyl and oxanorbornandiyl, \rightarrow



R^1 is a straight, branched or cyclic monovalent hydrocarbon group having $[[1]]$ 2 to 10 carbon atoms,

R^2 is a straight, branched or cyclic monovalent hydrocarbon group having 2 to 10 carbon atoms, or

R^1 and R^2 may bond together to form an aliphatic hydrocarbon ring with the carbon atom to which they are bonded,

R^3 is hydrogen or a straight, branched or cyclic monovalent hydrocarbon group having 1 to 10 carbon atoms which may contain a hetero atom, and

k^1 is 0 or 1.

6. (previously presented) ~~The polymer of claim 5, further comprising recurring units of any one of the general formulae (M1) to (M13):~~

=> => file reg
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=> d his

FILE 'LREGISTRY'
L1 STR

FILE 'REGISTRY'
L2 SCR 2043
L3 1 S L1 AND L2

FILE 'HCAPLUS'
L4 35320 S HASEGAWA ?/AU
L5 154 S KINSHO ?/AU
L6 105195 S WATANABE ?/AU
L7 28 S L4 AND L5 AND L6
L8 4922 S HASEGAWA K?/AU
L9 89 S KINSHO T?/AU
L10 19446 S WATANABE T?/AU
L11 27 S L8 AND L9 AND L10
SEL L11 26 RN

FILE 'REGISTRY'
L12 122 S E1-E122
L13 78 S L12 AND PMS/CI

FILE 'LREGISTRY'
E CYCLOPENTANE/CN
L14 1 S E3

FILE 'REGISTRY'
L15 260599 S 16.127.1/RID
L16 0 S L13 AND L15

FILE 'HCAPLUS'
SEL L11 1-25, 27 RN

FILE 'REGISTRY'
L17 300 S E1-E300
L18 394 S E301-E694
L19 123 S (L17 OR L18) AND L15

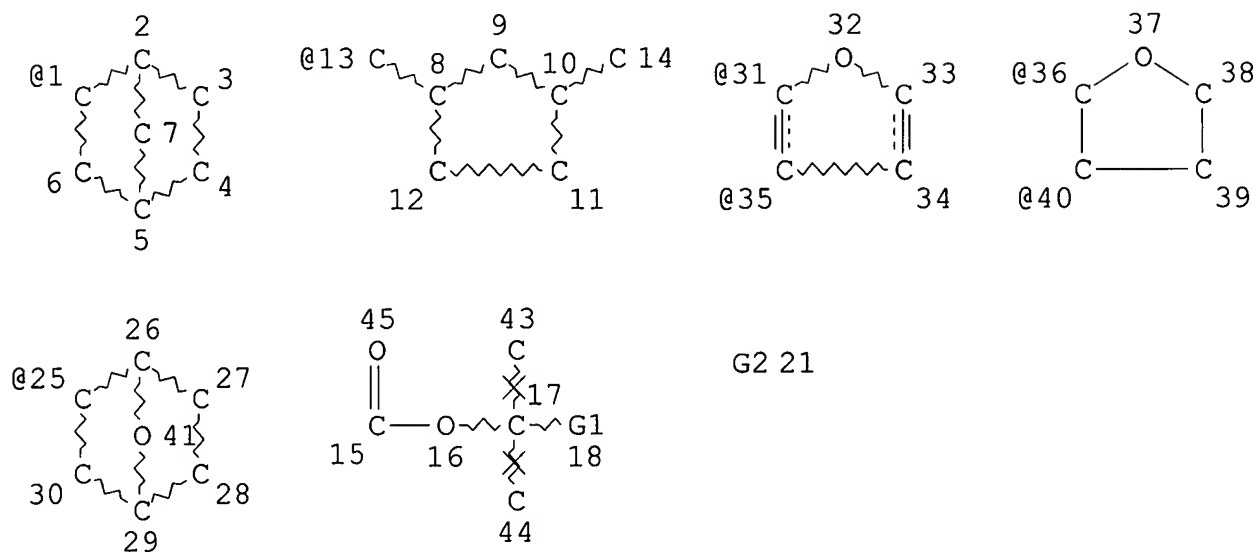
L20 88 S L19 AND PMS/CI
 L21 10 S L1 AND L2 FUL
 SAV L21 LEE948/A

FILE 'CAOLD'
 L22 0 S L21

FILE 'ZCAPLUS'
 L23 7 S L21

FILE 'REGISTRY'

=> d l21 que stat
 L1 STR



VAR G1=25/31/35/36/40
 VAR G2=1/13

NODE ATTRIBUTES:

NSPEC IS RC AT 43

NSPEC IS RC AT 44

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 39

STEREO ATTRIBUTES: NONE

L2 SCR 2043

L21 10 SEA FILE=REGISTRY SSS FUL L1 AND L2

100.0% PROCESSED 191 ITERATIONS
SEARCH TIME: 00.00.01

10 ANSWERS

=> file zcaplus
FILE 'ZCAPLUS'
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=> d 123 1-7 ibib abs hitstr hitrn

L23 ANSWER 1 OF 7 ZCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:428605 ZCAPLUS
DOCUMENT NUMBER: 142:472603
TITLE: Chemical amplification-type positive resist
materials and pattern formation
INVENTOR(S): Hatakeyama, Jun; Kawai, Yoshio
PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 42 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005128146	A2	<u>20050519</u>	JP 2003-361849	200310 22
PRIORITY APPLN. INFO.:			JP 2003-361849	200310 22

AB The resist materials comprise (A) .gtoreq.1 base polymers selected from poly(acrylic acids), their derivs., cycloolefin deriv.-maleic anhydride alternating copolymers, cycloolefin deriv.-maleic anhydride-acrylic acid deriv. copolymers, cycloolefin deriv.-maleimide alternating copolymers, cycloolefin deriv.-maleimide-acrylic acid deriv. copolymers, polynorbornenes, and metathesis ring-opening polymers, (B) $R_4[R_3C(OH)R_1R_2]_n$ (R_1 , R_2 = H, F, C1-4 alkyl, fluorinated alkyl; R_1 and/or R_2 = F-contg. group;

R3 = single bond, C1-4 alkylene; R4 = C4-20 n-valent cycloalkyl; R4 may contain OH, ether, ester, CO, lactone group; n = 1-4), (C) org. solvents, and (D) acid generators. Patterns are formed by applying the materials on substrates, heating, exposing to high-energy ray or electron beam via photomasks, heating as necessary, and developing. The materials show low line-edge roughness and decreased development residues caused by swelling in development measured by QCM (quartz crystal microbalance) method.

IT **851473-87-5**

(chem. amplification-type pos. resists with low swelling in development for fine pattern formation)

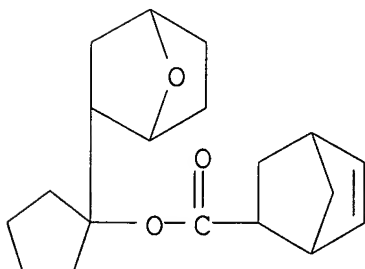
RN 851473-87-5 ZCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, methyl ester, polymer with 2,5-furandione and 1-(7-oxabicyclo[2.2.1]hept-2-yl)cyclopentyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 676456-74-9

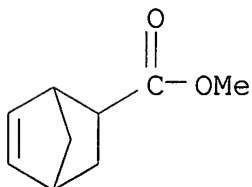
CMF C19 H26 O3



CM 2

CRN 6203-08-3

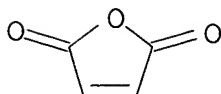
CMF C9 H12 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



IT 851473-87-5

(chem. amplification-type pos. resists with low swelling in development for fine pattern formation)

L23 ANSWER 2 OF 7 ZCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:135758 ZCAPLUS

DOCUMENT NUMBER: 142:228725

TITLE: Oxygen plasma-resistant radiation-sensitive resists, their patterning, and macromolecules therefor

INVENTOR(S): Hatakeyama, Jun; Takeda, Takanobu; Watanabe, Osamu

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 72 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

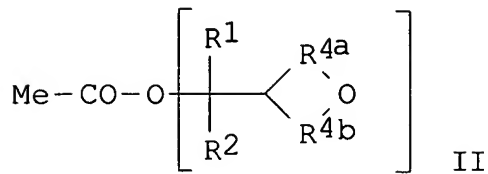
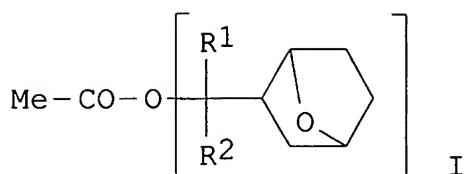
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005042085	A2	20050217	JP 2004-14354	20040122
				20030130
			JP 2003-21416	A
			JP 2003-194033	A
				20030709

PRIORITY APPLN. INFO.:

GI



AB The macromols. have Si-bearing repeating unit and unit (i) $\text{MeCO}_2[\text{CR}^1\text{R}^2(\text{A}^1\text{R}^3)]$ [$\text{A}^1 = (\text{tetrahydro})\text{furandiyl}$, oxanorbornanediyl ; $\text{R}^1, \text{R}^2 = \text{C}1\text{-}10$ hydrocarbyl; $\text{R}^3 = \text{H}, \text{C}1\text{-}10$ hydrocarbyl], (ii) I ($\text{R}'^1, \text{R}'^2 = \text{C}1\text{-}10$ hydrocarbyl), and/or (iii) II [$\text{R}'^1, \text{R}'^2 = \text{C}1\text{-}10$ hydrocarbyl; $\text{C}1\text{-}10$ hydrocarbyl; $\text{R}^{4a}, \text{R}^{4b} = \text{single bond}, \text{C}1\text{-}4$ alk(ne)ylene within total C no. of 3-60]. Pos.-working (chem.-amplified) resists contg. the macromols., and their patterning with .ltoreq.300-nm high-energy or electron beams are also claimed. The resist patterns are resistant against O plasma and Cl- or Br-contg. gas etchants.

IT **843647-87-0P 843647-88-1P 843647-89-2P**

(photoresists; Si- and prescribed cyclic group-contg. polymers for oxygen plasma-resistant pos. photoresists)

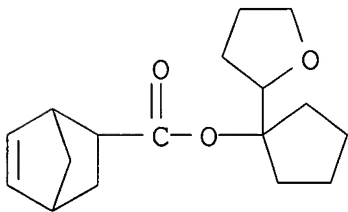
RN 843647-87-0 ZCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-(tetrahydro-2-furanyl)cyclopentyl ester, polymer with ethenylheptamethylcyclotetrasiloxane, 2,5-furandione and 1-(7-oxabicyclo[2.2.1]hept-2-yl)cyclopentyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 676456-73-8

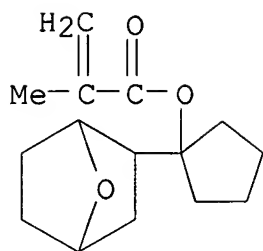
CMF C17 H24 O3



CM 2

CRN 676456-72-7

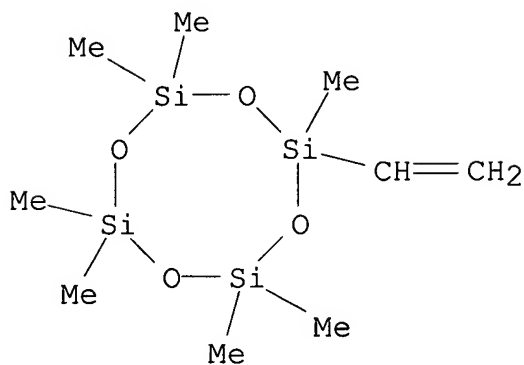
CMF C15 H22 O3



CM 3

CRN 3763-39-1

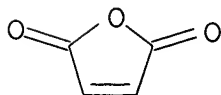
CMF C9 H24 O4 Si4



CM 4

CRN 108-31-6

CMF C4 H2 O3



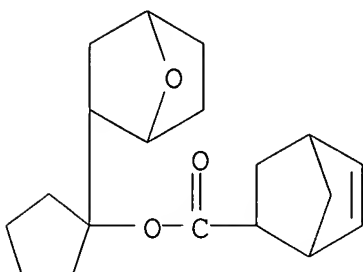
RN 843647-88-1 ZCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-(7-oxabicyclo[2.2.1]hept-2-yl)cyclopentyl ester, polymer with 2,5-furandione and hexahydro-5-oxo-2,6-methanofuro[3,2-b]furan-3-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 676456-74-9

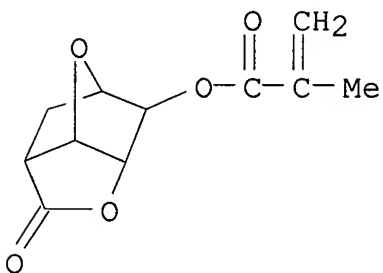
CMF C19 H26 O3



CM 2

CRN 274248-05-4

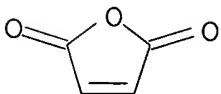
CMF C11 H12 O5



CM 3

CRN 108-31-6

CMF C4 H2 O3



RN 843647-89-2 ZCAPLUS

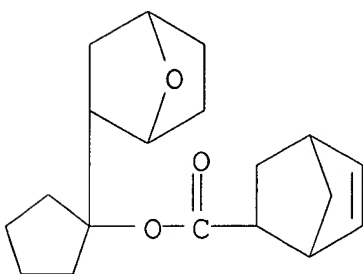
CN 2-Propenoic acid, 2-methyl-, 3-(heptacyclopentylpentacyclo[9.5.1.13,

9.15,15.17,13]octasiloxanyl)propyl ester, polymer with
hexahydro-5-oxo-2,6-methanofuro[3,2-b]furan-3-yl
2-methyl-2-propenoate and 1-(7-oxabicyclo[2.2.1]hept-2-
yl)cyclopentyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA
INDEX NAME)

CM 1

CRN 676456-74-9

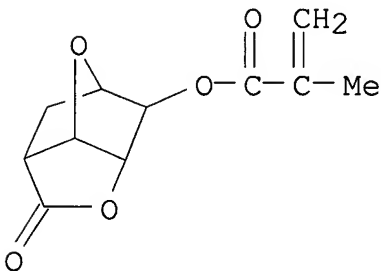
CMF C19 H26 O3



CM 2

CRN 274248-05-4

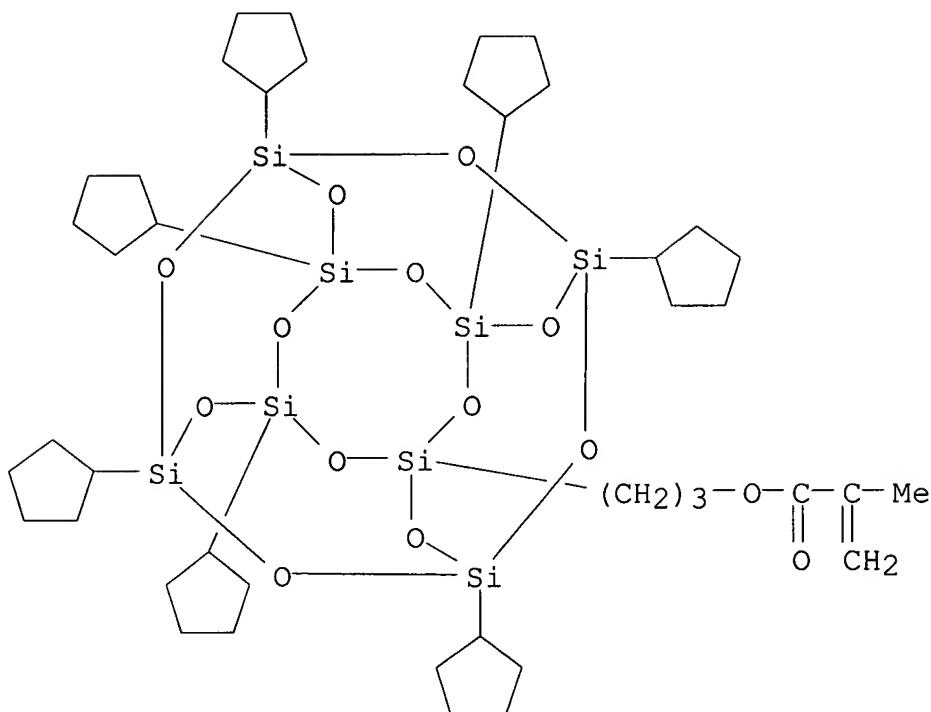
CMF C11 H12 O5



CM 3

CRN 169391-91-7

CMF C42 H74 O14 Si8



IT 843647-87-0P 843647-88-1P 843647-89-2P

(photoresists; Si- and prescribed cyclic group-contg. polymers
for oxygen plasma-resistant pos. photoresists)

L23 ANSWER 3 OF 7 ZCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:1036753 ZCAPLUS

DOCUMENT NUMBER: 142:30014

TITLE: Silicon-containing polymer, resist composition
and patterning process

INVENTOR(S): Hatakeyama, Jun; Takeda, Takanobu

PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 38 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004242821	A1	20041202	US 2004-853783	

200405
26

CHK D.P.

JP 2004352743

A2

20041216

JP 2003-148656

200305

27

PRIORITY APPLN. INFO.:

JP 2003-148656

A

200305

27

AB Novel silicon-contg. polymers are provided comprising recurring units having a POSS pendant and units which improve alkali soly. under the action of an acid. Resist compns. comprising the polymers are sensitive to high-energy radiation and have a high sensitivity and resolu. at a wavelength of up to 300 nm and improved resistance to oxygen plasma etching.

IT **802917-23-3P**

(silicon-contg. polymer, resist compn. and patterning process)

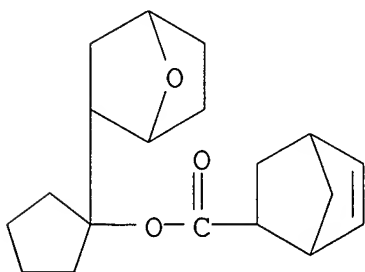
RN 802917-23-3 ZCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-(7-oxabicyclo[2.2.1]hept-2-yl)cyclopentyl ester, polymer with 2,5-furandione and heptacyclopentyl[(ethenyldimethylsilyl)oxy]pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxane (9CI) (CA INDEX NAME)

CM 1

CRN 676456-74-9

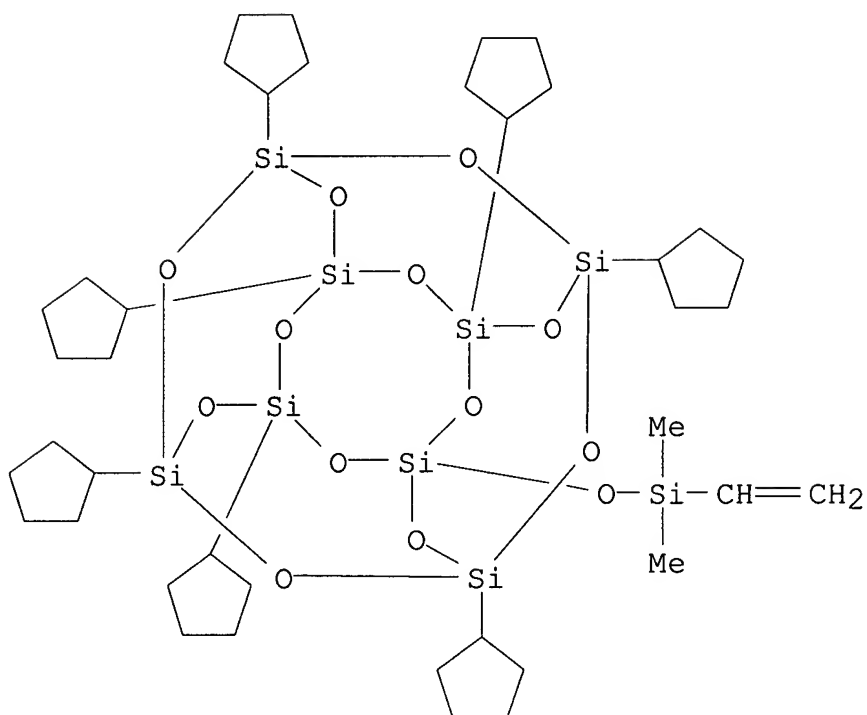
CMF C19 H26 O3



CM 2

CRN 312693-40-6

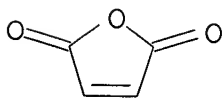
CMF C39 H72 O13 Si9



CM 3

CRN 108-31-6

CMF C4 H2 O3

IT **802917-23-3P**

(silicon-contg. polymer, resist compn. and patterning process)

L23 ANSWER 4 OF 7 ZCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:261017 ZCAPLUS

DOCUMENT NUMBER: 140:311986

TITLE: Ester compounds, polymers, resist compositions and patterning process

INVENTOR(S): Hasegawa, K.; Kinsho, T.; Watanabe, T.

PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 48 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

Applicant's

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1403295	A2	20040331	EP 2003-256075	20030926
EP 1403295	A3	20040414		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004143153	A2	20040520	JP 2003-330904	20030924
US 2004068124	A1	20040408	US 2003- <u>671948</u>	20030929
PRIORITY APPLN. INFO.:			JP 2002-285161	A 20020930

OTHER SOURCE(S): MARPAT 140:311986

AB The present invention relates to novel ester compds. having formula: A1C(=O)OCR1R2A2-R3 (A1 = polymerizable functional group having a double bond; A2 = furan-diyl, tetrahydrofurandiyl or oxa-norbornane-diyl; R1,2 = monovalent hydrocarbon group, or R1 and R2 may bond together to form an aliph. hydrocarbon ring with the carbon atom; R3 = hydrogen or a monovalent hydrocarbon group which may contain a hetero atom are polymerizable into polymers). Resist compns. comprising the polymers are sensitive to high-energy radiation, have an improved sensitivity, resoln., and etching resistance, and lend themselves to micropatterning with electron beams or deep-UV rays.

IT **676456-81-8P**

(ester compds. for polymers and photoresist compns.)

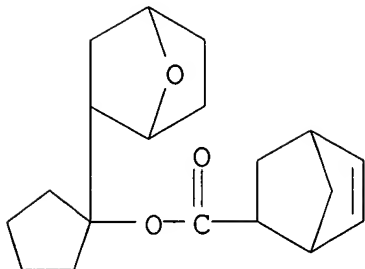
RN 676456-81-8 ZCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-(7-oxabicyclo[2.2.1]hept-2-yl)cyclopentyl ester, polymer with 2,5-furandione and tetrahydro-2-oxo-3-furanyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 676456-74-9

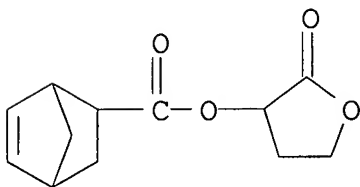
CMF C19 H26 O3



CM 2

CRN 264193-09-1

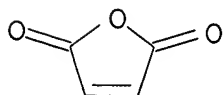
CMF C12 H14 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3

IT **676456-81-8P**

(ester compds. for polymers and photoresist compns.)

L23 ANSWER 5 OF 7 ZCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:716915 ZCAPLUS

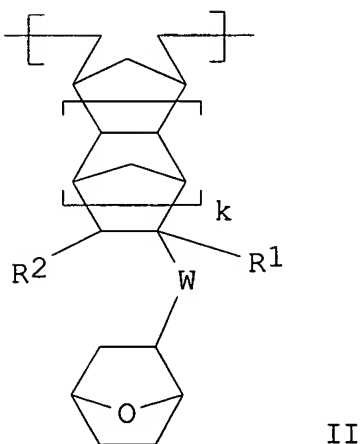
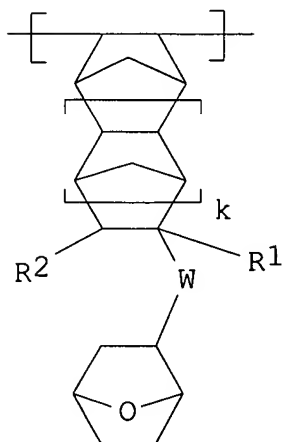
DOCUMENT NUMBER: 137:270511

TITLE: Polymers, resist materials, and pattern formation method

INVENTOR(S): Nishi, Tsunehiro; Hasegawa, Koji; Nakashima, Mutsuo
 PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan
 SOURCE: U.S. Pat. Appl. Publ., 37 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
US 2002132182	A1	<u>20020919</u>	US 2002-50478	20020116
US 6677101	B2	20040113		
TW 550275	B	20030901	TW 2002-91100626	20020116
JP 2002303985	A2	20021018	JP 2002-8244	20020117
PRIORITY APPLN. INFO.:			JP 2001-8613	A 20010117

GI



AB The present invention provides (1) a polymer which has excellent reactivity, rigidity and adhesion to the substrate, and undergoes a

low degree of swelling during development, (2) a resist material which uses this polymer as the base resin and hence exhibits much higher resolving power and etching resistance than conventional resist materials, and (3) a pattern formation method using this resist material. Specifically, the present invention provides a novel polymer contg. repeating units represented by I, II ($R_1 = H, Me, CH_2CO_2R_3$; $R_2 = H, Me, CO_2R_3$; $R_3 = C_1-15$ alkyl; $W = C_2-20$ divalent hydrocarbon radical, which may have .gtoreq. 1 ester linkage in its structure and may further be substituted by one or more other at. group contg. a heteroatom; $k = 0,1$) and having a wt.-av. mol. wt. of 1,000-500,000, a resist material using the polymer as a base resin, and a pattern formation method using the resist material.

IT **461671-55-6P**

(polymers, photoresist materials, and pattern formation method)

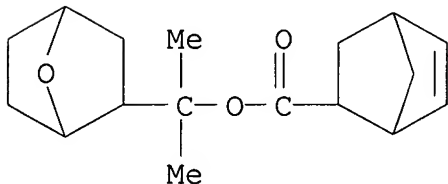
RN 461671-55-6 ZCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-ethylbicyclo[2.2.1]hept-2-yl ester, polymer with 2,5-furandione and 1-methyl-1-(7-oxabicyclo[2.2.1]hept-2-yl)ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 461671-54-5

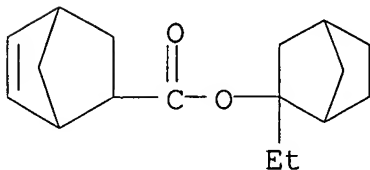
CMF C17 H24 O3



CM 2

CRN 330596-01-5

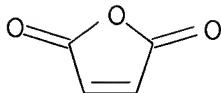
CMF C17 H24 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



IT 461671-55-6P

(polymers, photoresist materials, and pattern formation method)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L23 ANSWER 6 OF 7 ZCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:635653 ZCAPLUS

DOCUMENT NUMBER: 135:218724

TITLE: Positive-working photoresist composition
containing allylsilane-based resin

INVENTOR(S): Sato, Kenichiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 63 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

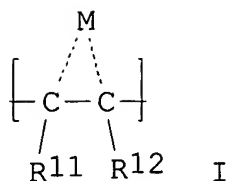
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. ----- -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 2001235865	A2	20010831	JP 2000-46129	200002 23
TW 513621	B	20021211	TW 2001-90102179	200102 02
US 2001041303	A1	20011115	US 2001-789823	200102 22
US 6528229	B2	20030304	JP 2000-46129	A 200002 23

PRIORITY APPLN. INFO.:

GI



AB The photoresist compn. comprises (A) a resin having repeating unit $\text{CH}_2\text{CH}(\text{CH}_2)_n\text{SiR}_1\text{R}_2\text{R}_3$ ($\text{R}_1\text{-R}_3$ = alkyl, haloalkyl, halo, alkoxy, trialkylsilyl, or trialkylsilyloxy; n = 0 or 1) and I (M = bond for linking 2 C atoms and forming an alicyclic structure which may have a substituent; R_{11} and R_{12} = H, cyano, halo, or (substituted) alkyl) and (B) a compd. for generating an acid by irradiation of actinic ray or radiation. The compn. provides resist pattern having minimized line width variation by SEM observation in semiconductor device fabrication.

IT **357400-47-6**

(pos.-working photoresist compn. contg. allylsilane-based acid-decomposable resin)

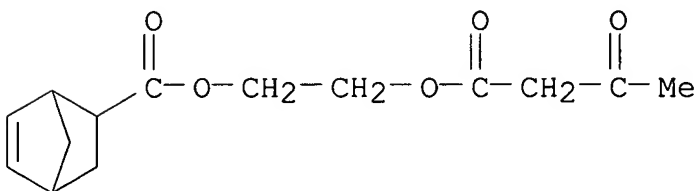
RN 357400-47-6 ZCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(1,3-dioxobutoxy)ethyl ester, polymer with 2,5-furandione, 1,1,1,3,3,3-hexamethyl-2-(2-propenyl)-2-(trimethylsilyl)trisilane and 1-methyl-1-(tetrahydro-5-oxo-3-furanyl)ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

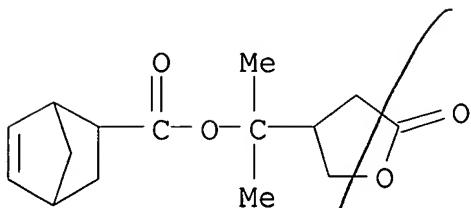
CRN 357400-46-5

CMF C14 H18 O5



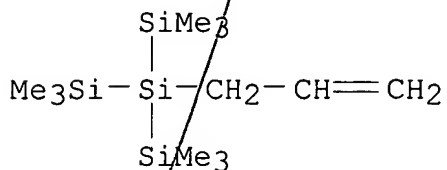
CM 2

CRN 357400-45-4
CMF C15 H20 O4



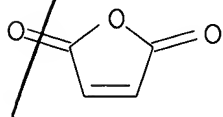
CM 3

CRN 136649-77-9
CMF C12 H32 Si4



CM 4

CRN 108-31-6
CMF C4 H2 O3



IT 357400-47-6

(pos.-working photoresist compn. contg. allylsilane-based
acid-decomposable resin)

L23 ANSWER 7 OF 7 ZCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:519010 ZCAPLUS

DOCUMENT NUMBER: 131:191866

TITLE: Radiation-sensitive resin composition for
chemically amplified photoresist

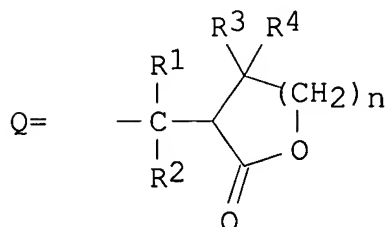
INVENTOR(S): Suwa, Mitsufumi; Iwasawa, Haruo; Yamamoto,
Masafumi; Kajita, Toru

PATENT ASSIGNEE(S): JSR Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 11223950	A2	19990817	JP 1998-37944	19980205
			JP 1998-37944	19980205

PRIORITY APPLN. INFO.:

GI



AB The compn. comprises (A) an alkali insol. or slightly alkali sol. resin having a lactone ring-contg. group Q (R1-4 = H, C1-6 linear or branched alkyl, 5- to 8-membered cyclic alkyl; R1 and R2 or R3 and R4 may form 5- to 8-membered cyclic alkyl; n = 1-4) which releases by acids, and when the group itself and/or the lactone ring releases, the resin becomes alkali sol. and (B) a radiation-sensitive acid generator. The compn. has high transparency and resoln. to radiation, and is esp. useful for manufg. semiconductor devices.

IT **239784-46-4P 239784-81-7P**

(radiation-sensitive compn. contg. resin having acid-releasable group with lactone ring for chem. amplified photoresist)

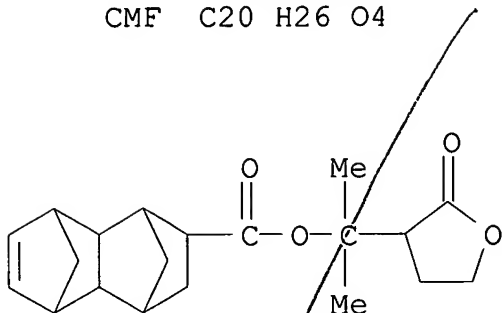
RN 239784-46-4 ZCAPLUS

CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, 1,2,3,4,4a,5,8,8a-octahydro-, 1-methyl-1-(tetrahydro-2-oxo-3-furanyl)ethyl ester, polymer with 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 239784-42-0

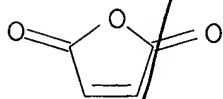
CMF C20 H26 O4



CM 2

CRN 108-31-6

CMF C4 H2 O3



RN 239784-81-7 ZCAPLUS

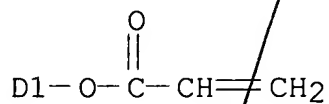
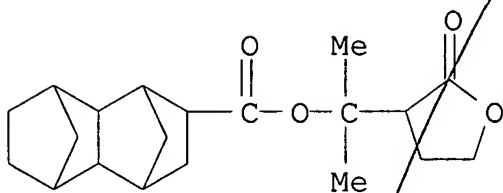
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-[(1-oxo-2-propenyl)oxy]-, 1-methyl-1-(tetrahydro-2-oxo-3-furanyl)ethyl ester, polymer with tricyclo[3.3.1.13,7]dec-1-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 239784-79-3

CMF C23 H30 O6

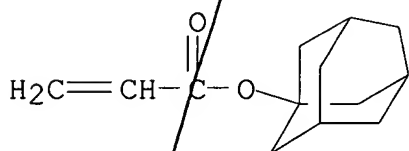
CCI IDS



CM 2

CRN 121601-93-2

CMF C13 H18 O2



IT 239784-46-4P 239784-81-7P

(radiation-sensitive compn. contg. resin having acid-releasable group with lactone ring for chem. amplified photoresist)